DOCUMENT RESUME

ED 230 008 EC 152 575

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TITLE Learning the New Way: Giving and Taking Instruction by Telecommunications.
PUB DATE Apr 83
NOTE 19p.; Paper presented at the Annual International Convention of The Council for Exceptional Children (61st, Detroit, MI, April 4-8, 1983).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Disabilities; Higher Education; Inservice Teacher Education; *Models; Needs Assessment; Rural Areas; *Special Education; Special Education Teachers; *Teacher Education Programs; *Telecommunications
IDENTIFIERS *Alaska; *Distance Education

ABSTRACT

A graduate special education teacher training program delivered via telecommunication instruction helped meet training needs in rural Alaska. Teachers in four areas were identified and their needs ascertained. The project promoted a flexible class design yet incorporated 7 of 10 courses required for special education certification. The distance delivery model incorporated interaction with faculty, audioconferencing, and taped classes followed by collect phone calls to the coordinator. Student grading and test materials were identical to on campus student work. Seven teachers successfully completed requirements for certification, with additional coursework taken by 24 others. (CL)

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Title: Learning the New Way:
Giving and Taking Instruction by Telecommunications

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INTRODUCTION

For the past three years, the University of Alaska, Anchorage (UAA) Special Education Department has conducted a federally supported pilot project to help provide access for rural Alaska teachers to the existing special education teacher certification program. Vast distances, expensive and precarious travel, and a dearth of trained special education teachers were factors which influenced the decision to try a non-traditional, distance delivery model for developing specialized teaching skills. The utilization of a developing statewide telecommunications network also needed to be explored for its effectiveness in teacher training, particularly in remote regions of the state.

The use of telecommunications for instructional purposes is not a new development either inside or outside the state of Alaska. Numerous agencies and universities have long recognized the potential of such systems to impact the knowledge of participants in a variety of subject areas. Particularly timely with the growing awareness of lifelong learning as a national goal, millions of people have gained access to outstanding professors lecturing on a variety of topics through programs such as the "Sunrise Semester". Commercially available courses, generally in the form of video tapes or computer software, abound in education. Both children and adults have "taken courses" in the comfort of their own homes, even in remote settings, with a television set or a computer terminal "delivering" the instruction.

The terms "distance education", "distance learning" or "distance delivery" are synonyms describing widespread efforts in the 1970's and '80's to provide study without having students in one location or under the continuous, immediate

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supervision of instructors. Keegan (1980) stresses the following main elements of distance education:

*the separation of teacher and learner which distinguishes it from face-to-face teaching

*the influence of an educational organization which distinguishes it from private study

*the use of technical media, usually print, to unite teacher and learner and carry the educational content

*the provision of two-way communications so that the student can benefit from or even initiate dialogue

*the possibility of occasional meetings for both didactic and socialization purposes

Distance education is greatly enhanced by a developed system of telecommunications. The use of telecommunications in assisting non-contiguous study generally includes, depending upon the availability, audioconferencing, telecomferencing, direct telephoning, mailing support materials such as videotapes, audio tapes, and printed matter and instructor visitations. Alaska has a highly developed telecommunications system which has been used only minimally for isolated course offerings and almost never for program development in higher education.

BACKGROUND

The Alaska Dilema

A 1980 report by Sontag and Button of the USOE - Special Education Programs (in Helge, 1981) describes the magnitude of the need for special educators in rural, remote and isolated areas throughout the nation and particularly in culturally distinct areas. In excess of 5,000 teachers were cited as needed to fill these positions. With only three districts in Alaska classified as "urban" and the cultural diversity in rural settings well documented, it is easy to see that Alaska is in dire need of appropriate personnel to serve, either directly or indirectly, the handicapped student.

While this need goes unfilled by the special education training programs inside and outside the state, schools in rural and remote districts in Alaska have the option to apply for certificate waivers from the Department of Education for regular classroom teachers who are willing to work in special education positions and at the same time commit themselves to the completion of a special education certification program. For the teacher who may have had some previous special education coursework or perhaps has even partiallly completed a program at UAA or at an institution outside the state, the waiver is a viable option. However, for the elementary or secondary trained teacher who is new to special education, preservice training at the graduate level through summer school classes alone is a lengthy if not impossible option. Many programs simply require more than the number of credits that can be accumulated in three summers.

School districts can provide some alternatives to the summer training programs, including arranging for local inservice courses to meet the need or by bringing "experts" in to work with the teachers. While this is a worthwhile solution to meet specific skill needs, if certification of a teacher is the final objective, an institution of higher education must be found which will endorse the course. Frequently the workshop nature of the offering does not meet minimum standards for graduate academic credit.

Many marginally successful approaches to teacher training in rural Alaska have been tried over the years, each with specific drawbacks. For example, the condensed learning situation required in workshops is hard on both the learner and the teacher. Teachers end up "performing" far past the point of learner attentiveness; participants are required to either assimilate and/or apply information in too compressed a time space. Feedback, a necessary part of learning, is difficult once the teacher has left and returned to an institution

sometimes thousands of miles away and too late to meet any prerequisite "critical moment" of learning. In addition, any follow up efforts are frequently too expensive because any one site may have only three or fewer individuals in need of the advanced training.

Another common rural training model existing in Alaska is the packaged course created in another place and programmed on a TV system for credit. It is this model that has occasioned many fears in institutions of higher education and perhaps justifiably so. In this model students burn out quickly. Their only interaction with the materials is one way--from screen to them. There is no chance to question, to find out how what is being taught applies specifically to their environment or to have any personal contact with the new information. The learner can and does frequently take an entirely passive role and soon sees himself as marking time and "buying" credits.

When the issue of delivering courses through off-campus models is considered, traditional university programs generally state the potential loss of "quality control" as a major factor against participation. An argument is tendered that because of the distance between professor and student and the frequent lack of any appropriate monitoring procedure, students may be required to "do less" than is expected of students taking the same course on campus where course contact time is computed to include not only direct instruction but group interaction, outside work and the use of library resources. The charge of "easy credits" is an oft' heard generalization, whether appropriate for any individual course or not it has rendered the credits earned in non-traditional delivery a "second class" status. Such credits earned by correspondence, through prepackaged courses or in workshops which include a day or two of direct instruction and then a follow-up project, generally count for salary increases and credential update but frequently will not transfer to graduate programs at the

University of Alaska or to outside institutions, so do not go toward the "program completion" requirement mandated by the Department of Education for certification.

Training alternatives obviously need to be developed and there is growing pressure from prospective students throughout Alaska to have programs providing advanced training available to them in rural and even remote sites. However, as this student population begins to look beyond the desire for an accumulation of isolated courses, they must also be ready to change their committment to their own higher education. Embarking upon a program is not like signing up for a course; pursuing a program of distance learning via telecommunications may be more difficult than on-campus.

The potential of distance delivery utilizing telecommunication instruction for the specific purpose of teacher training where the objectives must go beyond the development of a knowledge base and into the realm of learning application is relatively unexplored. Nor is it common to go beyond isolated course offerings and attempt to present a training program, the completion of which will allow the participants access to the same certificate as the on-campus student in the traditional training program.

Training programs are made up of more than the accumulation of courses and are generally the most important provence of colleges and universities. Programs are designed to meet national accreditation standards monitored by state and/or national review. They carry specific admission requirements as well as exit procedures that generally include some competency demonstration in a supervised setting. Programs assume a more lengthy and dynamic interaction with other participants, master teachers and faculty--a process which leads to self-evaluation and a group identity. Students completing an approved program anywhere in the nation can expect inter-state recognition and in some cases

reciprocity for their teaching credential based upon the continuous professional program review process.

Distance Education

Whether in the educational field or the business world, people utilizing distance delivery techniques report that a change in teaching style is required to adapt materials to a telecommunication system. A manual, Bridging the Distance (Monson, 1978) sets forth four steps for a successful teleconference. Although these steps seem like only sound teaching principles, they are, in telecommunication situations, the factors that create or destroy the whole learning environment. They include:

1. Creating an atmosphere which focuses on the importance of the individual.
2. Creating opportunities for everyone to participate.
3. Developing a teaching style that can be received and understood.
4. Collecting and giving back as much feedback as possible.

In traditional classrooms, the very physical setting, the interest of the peers and the presence of the teacher sets a stage for learning. In a distance learning situation the teacher has to make up for these missing factors. Although every student in a traditional setting may not participate or respond, the opportunity to do so is intrinsic in the setting. The student feels that she/he "could", that the decision to participate or not is his or hers. Some control over the learning is felt. In distance teaching, participation, feedback and individual attention are not automatically present and student hostility, Schaff (1981) points out, is often the byproduct of not seriously considering these factors.

In a traditional learning setting student commitment to learning is strengthened by personal contact with both teachers and peers. Motivation arises or is augmented by interactions. In distance learning the teachers must pay

more attention to student motivation (Kearsley, 1981): it must be planned for and actively inspired by as many interactive tasks as possible. It must be remembered that "telecommunications" is not intended to replace face-to-face meetings but rather provide a "value-added" component to the program (Showalter, 1981).

When a television set is involved in video aspects of distance learning, students and teachers need to be aware that an attentional difficulty may have to be overcome. In this country television is considered mainly as a medium of entertainment. People are not accustomed to giving it their best and most productive type of attention nor are they used to responding actively to it (Schaaf, 1981). Maximum student satisfaction seems to come from video presentations which are connected to a conferencing system providing immediate talk-back capability (Morris, 1981).

A report on teleconferencing as used by Texas A & M indicates that to achieve success with this technique, learners should be instructed before hand on the technical aspects and limitations of the system (McMullen, 1982). The fact that more responsibility for the learning lies with the student in telecommunications situations should not be ignored. In making recommendations specific to Alaska, Showalter (1981) stressed the importance of giving all parties concerned with telecommunications ample time to learn about the use of the system itself.

Many articles reviewed noted that in order to run an effective distance delivery course, program, or inservice utilizing telecommunications systems, far more preparation and planning time was required than for traditional instruction. Beyond having the expertise in the content area, a teacher attempting to use telecommunications for instruction needs an effective speaking voice (a sense of humor is helpful) and a willingness to make a committment to planning

and preparation (Showalter, 1981). Learning materials need to be developed well in advance if they are to be duplicated or distributed and even when telecommunication technicians are used to assist in the delivery, they too need to be familiarized with the material and content. In a program described by Morris (1981) lack of appropriate orientation resulted in Braille sample lessons telecast upside down because the station technicians were unfamiliar with the material. Visual aides such as charts, pictures or even notes to be written on a board have to be preplanned and designed (Morris, 1981). Support requirements that go unnoticed or are easily accomplished by instructors on-campus such as registration and book ordering/procuring become major obstacles and require extra time and special attention by the instructor when the participants are hundreds of miles away.

THE PILOT PROJECT

The UAA special education pilot project was for two and a half years an example of distance education utilizing the telecommunications capabilities of Alaska to meet a specific training need outside of Anchorage. The procedures described in the remainder of this article illustrate attempts to avoid earlier pitfalls of distance delivery in the state, assure quality control equivalent to the state approved on-campus program and apply information from the literature and earlier proponents concerning specific teacher and learner needs in distance education.

Teacher Population

Initial contact with prospective rural students was made through supervisory and administrative staff. Letters were sent to special education directors,

principals, school superintendents and community college directors in all school districts in Alaska. As a result of this first inquiry 85 responses were received from interested teachers around the state.

The project coordinator then contacted these 85 teachers directly for reaffirmation of their interest in a graduate program. From the responses to this letter four sites were selected for possible distance delivey based on the largest interested populations. The sites were Kodiak, Kenai, Fairbanks and Delta Junction. Counseling meetings were set-up at each of the four sites with the individual teachers. The teacher's needs and expectations were explored and the proposed details of the project were explained. The graduate program requirements as well as the special demands that would be made on rural students due to the nature of distance education were discussed. At this point the teachers in Delta Junction withdrew from the program. The remaining population, approximately twelve people in each of the three areas, agreed to enroll in the pilot project.

It was found through the counseling sessions that several types of student needs were to be met by the pilot project. Some students wished to begin their graduate work and move through the entire program. Others had taken some summer courses in special education previously and were interested in continuing. Still other teachers were already certified in special education, but were interested in updating their skills within certain areas and a few were pursuing advanced degrees in areas other than special education and hoped to use the courses as electives on their program. Because of these situations the population did not remain stable throughout the pilot years. Each semester two or three people left or joined the program in each site. A core group of about nine students remained in each site throughout the life of the project.

Program Sequence

The project was designed so that students could move through the program with some flexibility. No one was forced to take a specified number of credits each semester. Some students moved steadily through the program, others paced themselves differently. This flexibility was purposely designed into the program schedule to allow the pilot project to serve as many varying needs as possible.

Classes were scheduled for the three sites as outlined in Table 1. The content of each course was the same as the course regularly taught on campus. Classes were scheduled so that students could enter the program at any point. No student, upon entering the program, would be forced to take a class every semester in order to finish. Off-campus students were required to attend summerschool at UAA for the purpose of meeting and working with their on campus peers, using the library resources and observing and working in the broad range of services available to the handicapped student in urban Anchorage.

Seven of the ten courses required for certification in special education were presented off-campus during the life of the pilot program. The materials for one additional course were developed but not delivered and the remaining two courses were neither developed nor delivered. The basic introductory course in special education, Ed. 460 Exceptional Child, was not needed because most of the pilot participants had already taken it and the remedial reading requirement in the program, Ed. 604 Diagnosis and Correction of Reading Deficiencies, originated in a department outside of Special Education so was not covered by the project activities.

Table 1. Off campus and summer session offerings to accomodate pilot project participants.

Semester	Kenai	Kodiak	Fairbanks
Spring '80	ED 471 Issues & Trends		
Summer '80 (On Campus)	ED 460 Exceptional Child ED 471 Issues and Trends in Special Education ED 478 PrePracticum in Special Eduction ED 486 Curriculum Materials in Special Education ED 604 Diagnosis and Correction of Reading Deficiencies ED 680 Theories of Learning Disabilities ED 682 Diagnosis of Leaning Disabilities ED 687 Advanced Pracicum in Special Education		
Fall '80	ED 487 ED 680	ED 471	ED 471
Spring '81	ED 682	ED 680	ED 680
Summer '81 (On Campus)	ED 460 ED 471 ED 487 ED 683 Remediation of Learning Disabilities ED 687		
Fall '81	ED 486	ED 682	ED 682
Spring '82	ED 687	ED 683	ED 683 ED 487 ED 687
Summer '82 (On Campus)	ED 460 ED 486 ED 680 ED 687 ED 689 Individual and Classroom Management		

Delivery Model (Insert Table 1 approximately here)

The actual model for the distance delivery of coursework to rural students was designed as a result of the first year's investigation into the concerns of the university, the availability of the telecommunications network and the research concerning distance learning. Providing a live lecture presentation for each class meeting was, of course, too costly in terms of both instructor time and travel expenses. However, the importance of human contact between teacher and student was not ignored. The project coordinator and other university faculty were scheduled to visit the three sites at what were considered the most critical points in each semester. The coordinator was on-site for the first class meeting of each semester. The purpose of this visit was to orient students to the procedures they would be expected to follow and to impress upon them the different kind of responsibility that they would be expected to assume while learning under this new model. The remaining three visits each semester were used for delivering content and generating discussions. Particularly in the semesters before audio conferencing was available, these face-to-face sessions were used to answer student questions about procedures and expectations. For the two methods courses, Diagnosis and Remediation of Learning Disabilities, the final on-site visit was used to conduct individual competency check-outs.

The students at each site met weekly as a group to receive information through various formats. Under the supervision of the project coordinator, video-taped lectures were made and mailed out. Accompanying these tapes were pre-viewing guides designed to focus the student's attention on the issues to be dealt with and to arouse their curiosity. A lecture guide for use during the

viewing contained not only a notetaking outline, but also short activities which were performed during indicated points on the video tape. Student study and review guides were developed for many of the course materials including the textbooks. Developing student interaction with the ideas and materials presented was considered essential.

During the first two years of the project, students placed collect phone calls to the coordinator and UAA faculty members following taped classes and/or specific activities. Faculty members discussed content points with students and made sure that students were processing the prepared materials satisfactorily. Students were also required to submit written correspondence and reactions to class materials. In the final year of the grant, audio conferencing followed the taped presentations either immediately or in the following class session. During these conferences students from all three sites taking the same course were able to interact with each other and the special education faculty at UAA. In an effort to help students overcome reticence to becoming involved in discussion, the project coordinator made a concerted effort to refer to various student's written work, ask for explanations, and "plant" questions among the students. The coordinator also obtained photographs of students, to help familiarize them with their peers in other communities and circulated personal data sheets as she visited the various sites.

As well as using video cassettes to disseminate information, audio cassette lectures were developed and specific activities were directed by the students. Student activities included such things as organizing panels of local agency or service personnel, performing assigned demonstrations, leading assigned topical discussions, and participating in role playing situations.

Student assignments and continuous feedback sheets on each class meeting were sent by mail to the project coordinator. Student work was evaluated and graded on the same criteria as on-campus student work. Test materials were identical to on-campus materials for the same course. The competency check-out for the methods courses was conducted individually on-site in the same manner as done on campus each semester.

As the project developed it became necessary to hire a local facilitator for each site. It was the responsibility of this person to receive and mail all materials, to set-up the classroom, to collect and return assignments, to contact the program coordinator weekly, and to arrange the audio conferences. In each case this person was not an educator, but a well-organized and enthusiastic community member who could help maintain group cohesiveness.

Evaluation

Throughout the pilot project, students were asked to evaluate the effectivenessof the various methods of delivery. Distance education was as new to the instructors as learning by it was to the students. The project coordinator felt that feedback in both directions was equally important. This was particularly true when using the more sophisticated telecommunication systems. Students were asked such things as, was the presentation too fast or too slow, were the visuals clear, were the activities appropriate in content and length, were there enough intervals for discussion, should more materials have been sent, etc.? In addition to helping the coordinator improve on future presentations, this feedback helped the students feel more in control of what was happening during class time. While their peers on-campus were giving eye contact or staring out the window to show their approval or disapproval of lectures,

distance learning students sitting before a video monitor knew they, too, would have a chance to respond to the teaching style before them. Such attempts to relieve feelings of frustration or boredom and to involve students in the process of learning as well as the content were made whenever possible.

CONCLUSION

As a result of the pilot project in distance delivery utilizing telecommunications, seven teachers successfully completed the necessary thirty-three credits of special education coursework and were recommended for certification by the UAA program. An additional twelve teachers partially completed the program but were out of sequence for some of the courses because of later entry dates. They will be able to finish in future on-campus summer sessions. An additional population of approximately a dozen teachers took the off-campus special education courses for updating (inservice) skills or to apply toward other masters programs.

Compared to the on-campus program, where an average, of a dozen teachers complete the special education program each year and three times that number attend the special education courses for updating or as part of other programs, the results of all this special effort in distance education might appear to be insignificant. But, measured against the personal and monitary sacrifices of teachers in other parts of Alaska to attend a program in Anchorage or in another state which would also result in one more vacant teaching position aimed at assisting the handicapped learner, puts the efforts of distance delivery in Alaska in a more positive perspective.

Distance education remains a challenge for the future in Alaska. This pilot project was successful in developing a model that offered training--not just courses and quality graduate education--not just credits. It taught the instructors a new way of teaching that is not only beneficial to distance delivery but has had a positive effect in on-campus education as well. It offered a population of students the chance to practice professional motivation and to become self-directed learners, actively involved in their own education.

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Paper presented at the Annual Convention of the
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